

REMARKS

Claim 1 has been amended to specify that the weight of the ester is (i) about 0.1% to about 4% of the weight of the particulate polymer or liquid prepolymer and (ii) at least about 50% of the coalescent aid. Support may be found at claim 16 of the originally filed application, and page 11, lines 3-7 of the specification.

Claims 8 and 18 have been amended to include corn oil, sunflower oil, and safflower oil. Support may be found in Table 1 at page 9 of the specification.

Claims 24 and 25 have been amended to depend from claim 1.

Claims 15, 16, 20-23, 26, 27, 32, 33, 37 and 38 have been canceled.

Claims 1-14, 17-19, 24, 25, 28-31, and 34-36 are pending.

I. Anticipation Under 35 U.S.C. 102(b)

Reconsideration is requested of the rejection of claims 1-14, 17-19, 24, 25, 28-31, and 34-36 under 35 U.S.C. 102(b) as being unpatentable over WO 97/07173, as evidenced by its English-language equivalent, U.S. Patent No. 6,726,798 (Boege et al.).

Claims 1-14, 17-19, 24, 25, 28-31, and 34-36

Claim 1 is directed to a film-forming composition comprising a continuous aqueous phase and a dispersed phase. The dispersed phase comprises (i) a particulate polymer or emulsified liquid prepolymer, and (ii) a coalescent aid comprising an ester having the formula RCOOX wherein R and X are independently hydrocarbyl or substituted hydrocarbyl; at least one of R and X comprises at least two unsaturated aliphatic carbon-carbon bonds; and the weight of the ester is (i) about 0.1% to about 4% of the weight of the particulate polymer or liquid prepolymer and (ii) at least about 50% of the coalescent aid.

As described in applicants' specification, the coalescent aid of the claimed film-forming composition enables the glass transition temperature of a film of the composition to increase as the film is cured in the presence of air. More specifically, when exposed to air, the coalescent aid will oligomerize, resulting in the coalescent aid becoming more of a resin and less of a plasticizer, and thereby increasing the glass transition temperature of the film.

Boege et al. disclose compositions for bonding, coating and sealing that contain a styrene binder and a "fatty" compound as a plasticizer. According to Boege et al., "'fatty compounds' in the context of the invention are fatty acids, fatty alcohols and derivatives thereof. Their molecular weight is generally above 100 and preferably

above 200. The upper limit is 20,000 and preferably 300 to 1,500." Boege et al., U.S. Patent No. 6,726,798 at column 3, lines 16-20. Thus, Boege et al. nominate a wide range of materials as plasticizers. In addition, they propose that a wide range of amounts of these materials may be used: "the ratio by weight of the styrene polymer to the plasticizing fatty compound is 100:0.5 to 50, preferably 100:2.5 to 40 and, above all, 100:7.5 to 15." Boege et al., U.S. Patent No. 6,726,798 at column 5, lines 16-20, emphasis added. Consistent with this disclosure, Boege et al. provide a number of exemplary compositions and only one includes, as a component of the plasticizer, an ester having at least two unsaturated aliphatic carbon-carbon bonds. As a plasticizer, Boege et al. suggest using rapeseed oil fatty acid methyl ester (RME); rapeseed oil, however, contains a mixture of fatty acids with only about 28% of the mixture containing two or more unsaturated aliphatic carbon-carbon bonds; the remainder of the fatty acids are not polyunsaturated.¹ Thus, Boege et al. do not disclose or suggest using a plasticizer containing at least 50% of an ester having at least two unsaturated aliphatic carbon-carbon bonds; if anything, Boege et al. lead a person of ordinary skill away from and not to the invention defined by claim 1.

Although the Office did not specifically cite Emmons et al., U.S. Pat. No. 4,141,868 (identified on Applicants' Information Disclosure Statement on November 19, 2003) in support of any rejection, it should be noted that the invention, as defined by claim 1, is similarly distinguishable from Emmons et al.'s disclosure. Emmons et al. disclose a water-based coating composition comprising a non-volatile reactive component wherein the component can comprise "a small amount up to 30%, preferably 2 to 20%, by weight, based on binder weight, of a polyethylenically unsaturated material" See Emmons et al., U.S. Pat. No. 4,141,868 at column 7, lines 18-35. In contrast, the film-forming composition of claim 1 requires that the ester comprise at least about 50% of the coalescent aid. By suggesting that such esters may comprise only a minor amount of the non-volatile reactive component (e.g., up to 30%, preferably 2 to 20%, by weight), Emmons et al. lead a person of ordinary skill away from and not to the invention defined by claim 1.

¹The fatty acid content of a number of natural oils is provided in Table I of applicants' specification. In addition, Table I identifies the number of unsaturated bonds appearing in each of the oils. Rapeseed oil contains C18 fatty acid containing two double bonds (16 %), C18 fatty acid containing three double bonds (8%), and C20-24 fatty acids containing three double bonds (4%).

Each of the remaining claims incorporate the requirements of claim 1 and are patentable for the same reasons as those set forth for claim 1 and by reason of the further requirements which they specify.

For the above reasons, the Applicants respectfully request withdrawal of the rejection of claims 1-14, 17-19, 24, 25, 28-31, and 34-36 under 35 U.S.C. 102(b).

In view of the foregoing, favorable reconsideration and allowance of all claims is requested.

Please apply any charges or overpayment to deposit account 19-1345.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'EJH', with several loops and a long horizontal stroke extending to the right.

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